

THAT WHICH IS CLAIMED IS:

1. A method of monitoring anticoagulation therapy of a patient, wherein the anticoagulation therapy includes a patient-administered medication regimen selected from the group consisting of warfarin
5 and vitamin K antagonists, heparin and glucosaminoglycans, and direct thrombin inhibitors, and a patient-administered regimen for a coagulation test that monitors efficacy of the medication regimen, wherein the coagulation test is selected from the group
10 consisting of prothrombin time (PT) test, partial thromboplastin time (PTT) test, activated clotting time (ACT) test, heparin assays, ecarin clotting time (ECT) test, and thrombin clotting time test, wherein the apparatus is configured to receive and analyze
15 information regarding patient compliance with the patient-administered medication and coagulation test regimens, and wherein the apparatus is configured to modify the patient-administered medication and coagulation test regimens, the method comprising the
20 following steps performed by a portable apparatus:
receiving data from a patient, wherein the patient data includes at least one of physiological data, pathophysiological data, biological data, psychological data, neuropsychological data, and
25 behavioral data;
assessing severity of the received patient data;

prompting the patient to perform a patient-administered coagulation test if the received patient
30 data are assessed to be above a threshold severity
level;

receiving coagulation test results from the
patient-administered test; and

communicating the received coagulation test
35 results from the patient-administered test to a
healthcare provider via a communications network.

2. The method according to Claim 1 further
comprising the steps of:

assessing severity of the received
coagulation test results from the patient-administered
5 coagulation test;

modifying the patient-administered medication
regimen if the received coagulation test results from
the patient-administered coagulation test are assessed
to be above a threshold severity level; and

10 communicating the modified patient-
administered medication regimen to the patient.

3. The method according to Claim 2 further
comprising the step of communicating the modified
patient-administered medication regimen to a healthcare
provider via a communications network.

4. The method according to Claim 2 further
comprising the step of communicating the modified
patient-administered medication regimen to a remotely
located data processing system via a communications
network.

6. The method according to Claim 1 further comprising the step of automatically communicating the received patient data to a healthcare provider via a communications network if patient data are assessed to be above a threshold severity level.

7. The method according to Claim 6 wherein the step of automatically communicating the received patient data to a healthcare provider comprises paging the healthcare provider.

8. The method according to Claim 4 further comprising the step of communicating information regarding medication dosage to the patient in response to determining that the patient did not comply with the medication regimen in the preceding time period.

9. The method according to Claim 1 wherein the received patient data comprises at least one of information about hemorrhagic symptoms experienced by the patient and information about non-hemorrhagic symptoms experienced by the patient.

10. An apparatus that monitors anticoagulation therapy of a patient, wherein the anticoagulation therapy includes a patient-administered

medication regimen selected from the group consisting
5 of warfarin and vitamin K antagonists, heparin and
glucosaminoglycans, and direct thrombin inhibitors, and
a patient-administered regimen for a coagulation test
that monitors efficacy of the medication regimen,
wherein the coagulation test is selected from the group
10 consisting of prothrombin time (PT) test, partial
thromboplastin time (PTT) test, activated clotting time
(ACT) test, heparin assays, ecarin clotting time (ECT)
test, and thrombin clotting time test, comprising:

a processor;

15 a user interface in communication with the
processor;

computer code executable by the processor
that receives and stores data from a patient, wherein
the patient data includes at least one of physiological
20 data, pathophysiological data, biological data,
psychological data, neuropsychological data, and
behavioral data;

computer code executable by the processor
that assesses severity of the received patient data;

25 computer code executable by the processor
that prompts a patient via the user interface to
perform a patient-administered coagulation test if the
received patient data are assessed to be above a
threshold severity level;

30 computer code executable by the processor
that receives and stores coagulation test results from
the patient-administered coagulation test;

computer code executable by the processor
that communicates the received coagulation test results
35 from the patient-administered coagulation test to a

healthcare provider via a communications network.

11. The apparatus according to Claim 10 further comprising:

computer code executable by the processor that assesses severity of the received coagulation test results from the patient-administered coagulation test;

computer code executable by the processor that modifies the patient-administered medication regimen if the received coagulation test results from the patient-administered coagulation test are assessed to be above a threshold severity level; and

computer code executable by the processor that communicates the modified patient-administered medication regimen to the patient.

12. The apparatus according to Claim 11 further comprising computer code executable by the processor that communicates the modified patient-administered medication regimen to a healthcare provider via a communications network.

13. The apparatus according to Claim 11 further comprising computer code executable by the processor that communicates the modified patient-administered medication regimen to a remotely located data processing system via a communications network.

14. The apparatus according to Claim 10 further comprising computer code executable by the processor that receives and stores information from a patient about patient compliance with the patient-

- 5 administered medication and coagulation test regimens during a preceding time period.

15. The apparatus according to Claim 10 further comprising computer code executable by the processor that automatically communicates the received patient data to a healthcare provider via a communications network if patient data are assessed to be above a threshold severity level.

16. The apparatus according to Claim 15 wherein the computer code that automatically communicates the received patient data to a healthcare provider comprises computer code that sends a paging signal to a healthcare provider.

17. The apparatus according to Claim 13 further comprising computer code executable by the processor that communicates information regarding medication dosage to the patient in response to
5 determining that the patient did not comply with the medication regimen in the preceding time period.

18. The apparatus according to Claim 10 wherein the received patient data comprises at least one of information about hemorrhagic symptoms experienced by the patient and information about non-hemorrhagic symptoms experienced by the patient.

19. A system that monitors anticoagulation therapy of a patient, wherein the anticoagulation therapy includes a patient-administered medication

regimen selected from the group consisting of warfarin
5 and vitamin K antagonists, heparin and
glucosaminoglycans, and direct thrombin inhibitors, and
a patient-administered regimen for a coagulation test
that monitors efficacy of the medication regimen,
wherein the coagulation test is selected from the group
10 consisting of prothrombin time (PT) test, partial
thromboplastin time (PTT) test, activated clotting time
(ACT) test, heparin assays, ecarin clotting time (ECT)
test, and thrombin clotting time test, wherein the
system comprises:

15 a patient apparatus, comprising:

a processor;

a user interface in communication with
the processor;

computer code executable by the
20 processor that receives and stores data from
a patient, wherein the patient data includes
at least one of physiological data,
pathophysiological data, biological data,
psychological data, neuropsychological data,
25 and behavioral data;

computer code executable by the
processor that assesses severity of the
received patient data;

computer code executable by the
30 processor that prompts the patient via the
user interface to perform a patient-
administered coagulation test if the received
patient data are assessed to be above a
threshold severity level;

35 computer code executable by the

processor that receives and stores
coagulation test results from the patient-
administered coagulation test; and
computer code executable by the
processor that communicates the received
coagulation test results from the patient-
administered coagulation test to a healthcare
provider via a communications network; and
a remotely located data processing system
configured to communicate with and receive data from
the patient apparatus, the remotely located data
processing system comprising:

computer code that obtains patient data
from the patient apparatus;

computer code that analyzes the obtained
patient data from to identify medical
conditions of a patient;

computer code that displays identified
patient medical conditions for a patient in
selectable, prioritized order according to
medical severity via a remotely located
client in communication with the central data
processing system; and

computer code that displays treatment
options for treating a selected medical
condition for a patient.

20. The system according to Claim 19 wherein
the patient apparatus further comprises:

computer code executable by the processor
that assesses severity of the received coagulation test
results from the patient-administered coagulation test;

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computer code executable by the processor that modifies the patient-administered medication regimen if the received coagulation test results from the patient-administered coagulation test are assessed to be above a threshold severity level; and

computer code executable by the processor that communicates the modified patient-administered medication regimen to the patient.

21. The system according to Claim 19 further comprising computer code that communicates treatment information from the remotely located data processing system to the patient apparatus.

22. The system according to Claim 21 wherein the computer code that communicates treatment information from the remotely located data processing system to the patient apparatus comprises computer code that transmits treatment information via wireless, satellite, telephone, e-mail, AVM or facsimile transmission.

23. The system according to Claim 22 wherein the computer code that communicates treatment information from the remotely located data processing system to the patient apparatus comprises computer code that modifies the medication algorithm within the patient apparatus.

24. The system according to Claim 19 wherein the computer code that obtains patient data from the patient apparatus further comprises:

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5 computer code that analyzes data transmitted
from the patient apparatus substantially simultaneously
with the transmission thereof to the remotely located
data processing system to identify emergency medical
conditions requiring immediate medical attention; and
computer code that automatically communicates
10 treatment information to the patient apparatus for an
identified emergency medical condition.

25. The system according to Claim 19 wherein
the remotely located data processing system further
comprises:

5 computer code that monitors patient usage of
medication; and

computer code that orders medication for a
patient from a supplier of medication.

26. The system according to Claim 19 wherein
the computer code that displays identified patient
medical conditions comprises computer code that
displays selected ones of the identified patient
5 medical conditions.

27. The system according to Claim 19 wherein
the patient apparatus further comprises computer code
that receives information via the user interface about
patient compliance with the patient-administered
5 medication regimen and the patient-administered
coagulation test regimen during a preceding time
period.

28. The system according to Claim 19 wherein

the patient apparatus further comprise computer code that communicates information regarding medication dosage to a patient via the user interface in response to determining that a patient did not comply with the patient-administered medication regimen in a preceding time period.

29. A method of monitoring disease therapy of a patient, wherein the disease is selected from the group consisting of asthma, cancer chemotherapy, depression, high blood pressure, seizure disorders, and thrombosis, wherein the disease therapy includes a patient-administered medication regimen and a patient-administered regimen for a test that monitors efficacy of the medication regimen, wherein the apparatus is configured to receive and analyze information regarding patient compliance with the patient-administered medication and test regimens, and wherein the apparatus is configured to modify the patient-administered medication and test regimens, the method comprising the following steps performed by the apparatus:

receiving data from a patient, wherein the patient data includes at least one of physiological data, pathophysiological data, biological data, psychological data, neuropsychological data, and behavioral data;

assessing severity of the received patient data;

prompting the patient to perform a patient-administered test if the received patient data are assessed to be above a threshold severity level;

receiving test results from the patient-

administered test; and

communicating the received test results from the patient-administered test to a healthcare provider via a communications network.

30. The method according to Claim 29 further comprising the steps of:

assessing severity of the received test results from the patient-administered test;

5 modifying the patient-administered medication regimen if the received test results from the patient-administered test are assessed to be above a threshold severity level; and

10 communicating the modified patient-administered medication regimen to the patient.

31. The method according to Claim 30 further comprising the step of communicating the modified patient-administered medication regimen to a healthcare provider via a communications network.

32. The method according to Claim 30 further comprising the step of communicating the modified patient-administered medication regimen to a remotely located data processing system via a communications network.

33. The method according to Claim 29 further comprising the step of receiving from the patient information about patient compliance with the patient-administered medication and test regimens during a
5 preceding time period.

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37. An apparatus that monitors disease therapy of a patient, wherein the disease is selected from the group consisting of asthma, cancer chemotherapy, depression, high blood pressure, seizure disorders, and thrombosis, wherein the disease therapy includes a patient-administered medication regimen and a patient-administered regimen for a test that monitors efficacy of the medication regimen, the apparatus comprising:

computer code executable by the processor
that receives and stores data from a patient, wherein

15 the patient data includes at least one of physiological
data, pathophysiological data, biological data,
psychological data, neuropsychological data, and
behavioral data;

computer code executable by the processor
20 that assesses severity of the received patient data;

computer code executable by the processor
that prompts the patient via the user interface to
perform a patient-administered test if the received
patient data are assessed to be above a threshold
25 severity level;

computer code executable by the processor
that receives and stores test results from the patient-
administered test; and

computer code executable by the processor
30 that communicates the received test results from the
patient-administered test to a healthcare provider via
a communications network.

38. The apparatus according to Claim 37
further comprising:

computer code executable by the processor
that assesses severity of the received test results
5 from the patient-administered test;

computer code executable by the processor
that modifies the patient-administered medication
regimen if the received test results from the patient-
administered test are assessed to be above a threshold
10 severity level; and

computer code executable by the processor
that communicates the modified patient-administered
medication regimen to the patient.

39. The apparatus according to Claim 38 further comprising computer code executable by the processor that communicates the modified patient-administered medication regimen to a healthcare provider via a communications network.

40. The apparatus according to Claim 38 further comprising computer code executable by the processor that communicates the modified patient-administered medication regimen to a remotely located data processing system via a communications network.

41. The apparatus according to Claim 37 further comprising computer code executable by the processor that receives and stores information provided by the patient about patient compliance with the patient-administered medication and test regimens during a preceding time period.

42. The apparatus according to Claim 37 further comprising computer code executable by the processor that automatically communicates the received patient data to a healthcare provider via a communications network if patient data are assessed to be above a threshold severity level.

43. The apparatus according to Claim 40 further comprising computer code executable by the processor that communicates information regarding medication dosage to the patient in response to determining that the patient did not comply with the medication regimen in the preceding time period.